Title: FUEL FOR HOMOGENEOUS CHARGE COMPRESSION IGNITION (HCCI) SYSTEMS AND A PROCESS FOR

PRODUCTION OF SAID FUEL

IN THE CLAIMS

Please amend claims 1,2-18 as indicated below. Please cancel claims 19-22.

- 1. (Currently Amended) A HCCI fuel or fuel component, which fuel includes at least n-paraffins and iso-paraffins having from 7 to 14 carbon atoms, and which fuel has an ignition delay of less than 7 ms, according to ASTM D6890, which fuel has an ASTM D86 distillation range from 90°C to 270°C.
- 2. (Original) A fuel as claimed in claim 1, which fuel contains less than 1% wt of aromatic and negligible levels of sulphur.
- 3. (Currently Amended) A fuel as claimed in any one of the preceding claims claim
- 1, which fuel has an ignition delay of less than 5 ms.
- 4. (Currently Amended) A fuel as claimed in any one of the preceding claims claim
- 1, which fuel has an ignition delay of between 2 and 5 ms.
- 5. (Currently Amended) A fuel as claimed in any one of the preceding claims claim
- 1, wherein the mass % of the n-paraffins exceeds that of any other single component in the fuel.
- 6. (Currently Amended) A fuel as claimed in any one of the preceding claims claim
- 1, wherein the mass % of the n-paraffins is in excess of 25% by mass of the fuel
- 7. (Currently Amended) A fuel as claimed in any one of the preceding claims claim
- 1, wherein the mass % of the n-paraffins is in excess of 50% by mass of the fuel.
- 8. (Currently Amended) A fuel as claimed in any one of the preceding claims claim
- 1, wherein the mass % of the n-paraffins is in excess of 80% by mass of the fuel.
- 9. (Currently Amended) A fuel as claimed in any one of the preceding claims claim

- 1, wherein the mass % of the n-paraffins is in the order of 95% by mass of the fuel.
- 10. (Currently Amended) A fuel as claimed in any one of the preceding claims claim 1, wherein the n-paraffins are Fischer-Tropsch (FT) reaction derived n-paraffins.
- 11. (Currently Amended) A fuel as claimed in any one of the preceding claims claim 1, wherein the iso-paraffins are FT reaction derived iso-paraffins.
- 12. (Currently Amended) A fuel as claimed in any one of the preceding claims claim 1, which fuel includes one or more of: olefins, lubricity improver, and oxygenates.
- 13. (Currently Amended) A fuel as claimed in any one of the preceding claims claim 1, which fuel is substantially free of heteroatoms such as nitrogen, sulphur and oxygen.
- 14. (Currently Amended) A fuel as claimed in any one of the preceding claims, which fuel has an ASTM D86 distillation range from 90 to 270 C. A process for preparing a fuel, which process includes blending HCCI fuel or fuel component as claimed in claim 1, as a blending component with conventional fuel.
- 15. (Currently Amended) Use of an HCCl fuel or fuel component is any one of claims to 14 as a blending component with the conventional fuel. A process for preparing a HCCl fuel or fuel component, which fuel or fuel component includes at least n-paraffins and iso-paraffins, which fuel has an ignition delay of less than 7 ms, said process including one or more steps selected from:
 - a) hydrotreating at least a Condensate fraction of a Fischer-Tropsch (FT) synthesis reaction product, or a derivative thereof;
 - b) hydroconverting a Wax fraction of the FT synthesis product or a derivative

Title: FUEL FOR HOMOGENEOUS CHARGE COMPRESSION IGNITION (HCCI) SYSTEMS AND A PROCESS FOR PRODUCTION OF SAID FUEL

thereof;

- c) fractionating in a single unit or in separate units, one or more of the hydrotreated Condensate fractions of step a) and the hydroconverted fraction of step b) to obtain the desired HCCI fuel or fuel component having from 7 to 14 carbon atoms and which fuel has an ASTM D86 distillation range from 90°C to 270°C; and
- d) optionally, blending two or more of said components from step c) in a desired ratio to obtain the desired HCCI fuel.
- 16. (Currently Amended) A process for preparing a HCCl fuel or fuel component, which fuel or fuel component includes at least-n-paraffins and iso-paraffins, which fuel has an ignition delay of less than 7 ms, said process including one or more steps selected from:
 - a) hydrotreating at least a Condensate fraction of a Fischer Tropsch (FT) synthesis reaction product, or a derivative thereof;
 - b) hydroconverting a Wax fraction of the FT synthesis product or a derivative thereof:
 - c) fractionating in a single unit or in separate units, one or more of the hydrotreated Condensate fractions of step a) and the hydroconverted fraction of step b) to obtain the desired HCCI fuel or fuel component having from 7 to 14 carbon atoms and which fuel has an ASTM D86 distillation range from 90°C to 270°C; and
 - d) optionally, blending two or more of said components from step c) in a desired ratio to obtain the desired HCCI fuel.

A process as claimed in claim 15, wherein the hydroconversion is by way of hydrocracking.

17. (Currently Amended) A process as claimed in claim 16, wherein the hydroconversion is by way of hydrocracking.

Serial Number: Filing Date:

Title: FUEL FOR HOMOGENEOUS CHARGE COMPRESSION IGNITION (HCCI) SYSTEMS AND A PROCESS FOR PRODUCTION OF SAID FUEL

A process as claimed in claim 15, wherein the blending of step d) is the blending of FT condensate derivative and hydroconverted FT wax derivative in a blending ratio of from 1:99 to 99:1 by volume.

18. (Currently Amended) A process as claimed in claim 16 or 17, wherein the blending of step d) is the blending of FT condensate derivative and hydroconverted FT wax derivative in a blending ratio of from 1:99 to 99:1 by volume.

A process as claimed in claim 15, wherein the fuel produced by the process is a fuel as claimed in claim 1.

- 19. (Cancelled)
- 20. (Cancelled)
- 21. (Cancelled)
- 22. (Cancelled)

Serial Number: Filing Date:

Title: FUEL FOR HOMOGENEOUS CHARGE COMPRESSION IGNITION (HCCI) SYSTEMS AND A PROCESS FOR PRODUCTION OF SAID FUEL

Respectfully Submitted,

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Date 19 Tane 2006

By Vani Moodley
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